

CELL PHONES AND CANCER

The World Health Organization's International Agency for Research on Cancer (IARC) has recently classified radiofrequency electromagnetic fields as "possibly carcinogenic to humans (Group 2B)." This groupsmobile phone use alongside 240 other agents, including low-level magnetic fields, for which evidence of harm is uncertain. Though IARC has found a positive association between mobile phone use and cancer to be "credible," it notes that the possibility of chance, bias, or other factors playing a role "cannot be ruled out."

A cell phone's main source of radiofrequency (RF) energy (radio waves), is produced through its antenna. The antenna of newer hand-held cell phones is in the handset, which is typically held against the side of the head when the telephone is in use. The closer the antenna is to the head, the greater a person's expected exposure to RF energy. The most significant study of long-term use is the 13-country Interphone study, which reported that overall, cell phone users have no increased risk for two of the most common types of brain tumor-glioma and meningioma. In addition, they found no evidence of increasing risk with progressively increasing number of calls, longer call time, or years since beginning cell phone use. Yet a precautionary approach needs to be adopted, considering the growing number of very young children, using the phone repeatedly and for long durations. Unlike adults, children have cells that are rapidly dividing and the tissues are growing. Hence the cells are more sensitive to radiation. Also, the thickness of the skull is less compared with adults. The area of the brain exposed to non-ionizing radiation from cell phones is large vis-à-vis adults. On May 31, the Council of Europe's parliamentary assembly recommended restrictions on the use of mobile phones and wireless Internet access in all schools thus making them healthier places for children. (*The Hindu* 9 June 2011, <http://>

www.cancer.gov/cancertopics/factsheet/Risk/cellphones)

THE EMPEROR OF ALL MALADIES

Siddharth Mukherjee, oncologist, researcher, medical teacher and now writer has tried to get under the skin of the treacherous disease called cancer in his book "The Emperor of Maladies – a biography of cancer". His passionate description of a disease which has outwitted humans more than 4000 years, has won the Pulitzer Prize in the general non-fiction category. Siddharth Mukherjee was brought up in New Delhi and then studied biology in Stanford University. He then won a Rhodes scholarship to Oxford. His MD was from Harvard University which was followed by an Oncology fellowship in Massachusetts General Hospital. He is now assistant professor of medicine in Columbia University.

He is a good story teller weaving stories of patients, scientists, doctors, and medical advances to paint a vivid picture of this fascinating disease. He even paraphrases Tolstoy "Normal cells are identically normal; malignant cells become unhappily malignant in unique ways". According to the Pulitzer citation, the book by the New York-based cancer physician and researcher is "an elegant inquiry, at once clinical and personal, into the long history of an insidious disease that, despite treatment breakthroughs, still bedevils medical science". From the Persian Queen Atossa, whose Greek slave cut off her malignant breast, to the nineteenth-century recipients of primitive radiation and chemotherapy to Mukherjee's own leukemia patient, Carla, *The Emperor of All Maladies* is about the people who have soldiered through fiercely demanding regimens in order to survive—and to increase our understanding of this iconic disease (*The Hindu* 5 June 2011).

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